The Square Root Property Worksheet

The Square Root Property:

If \( x^2 = a \), then \( x = \pm \sqrt{a} \)

Solve each equation using the Square Root Property.

1. \( x^2 = 4 \)  
2. \( x^2 = 20 \)

3. \( 5x^2 = 240 \)  
4. \( 4x^2 = 52 \)

5. \( x^2 + 5 = 167 \)  
6. \( x^2 - 4 = 76 \)

7. \( 2x^2 + 5 = 19 \)  
8. \( (x - 3)^2 = 16 \)

9. \( 3(x - 4)^2 = 15 \)  
10. \( (5x + 1)^2 = 25 \)

11. \( (3x - 4)^2 = 42 \)  
12. \( (5x - 1)^2 = 16 \)
13. \((8x - 9)^2 = 6\)

14. \((7x + 5)^2 = 10\)

15. The product of two positive numbers is 140. Determine the numbers if the larger is 5.6 times the smaller.

Let ____ = _______________
Then _______ = _______________
Equation:

16. The area of a rectangle is 30 square meters. Find the length and width if the length is 1.45 times the width.

Let ____ = _______________
Then _______ = _______________
Equation:

Answers:
1. \(x = 2, x = -2\)
2. \(x = 2\sqrt{5}, x = -2\sqrt{5}\)
3. \(x = 4\sqrt{3}, x = -4\sqrt{3}\)
4. \(x = \sqrt{13}, x = -\sqrt{13}\)
5. \(x = 9\sqrt{2}, x = -9\sqrt{2}\)
6. \(x = 4\sqrt{5}, x = -4\sqrt{5}\)
7. \(x = \sqrt{7}, x = -\sqrt{7}\)
8. \(x = -1, x = 7\)
9. \(x = 4 + \sqrt{5}, x = 4 - \sqrt{5}\)
10. \(x = -\frac{6}{5}, x = \frac{4}{5}\)
11. \(x = \frac{4 + \sqrt{42}}{3}, x = \frac{4 - \sqrt{42}}{3}\)
12. \(x = -\frac{3}{5}, x = 1\)
13. \(x = \frac{9 + \sqrt{6}}{8}, x = \frac{9 - \sqrt{6}}{8}\)
14. \(x = -\frac{5 + \sqrt{10}}{7}, x = -\frac{5 - \sqrt{10}}{7}\)
15. 5 and 28
16. Width = 4.55 meters
   Length = 6.6 meters